

AUXILIARY HYDRAULIC PUMP RELIEF VALVE - MAINTENANCE PRACTICES

**1. General**

- A. The auxiliary hydraulic pump relief valve is tied into return port A on the hydraulic system reservoir, located in the left wing root area aft of the rear spar.
- B. Access to the relief valve is through the left wing root access door.

**2. Removal/Installation Auxiliary Hydraulic Pump Relief Valve**

**A. Remove Relief Valve**

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of circuit breaker panel.  
**WARNING:** TAG AND SAFETY CIRCUIT BREAKER (SEE CHAPTER 20).
- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Disconnect auxiliary pump pressure line from inlet port of relief valve.
- (5) Remove relief valve from reducer in T-fitting in reservoir return port A. Discard O-ring.
- (6) Remove fitting from inlet port of relief valve; retain for use in new valve. Discard O-ring.

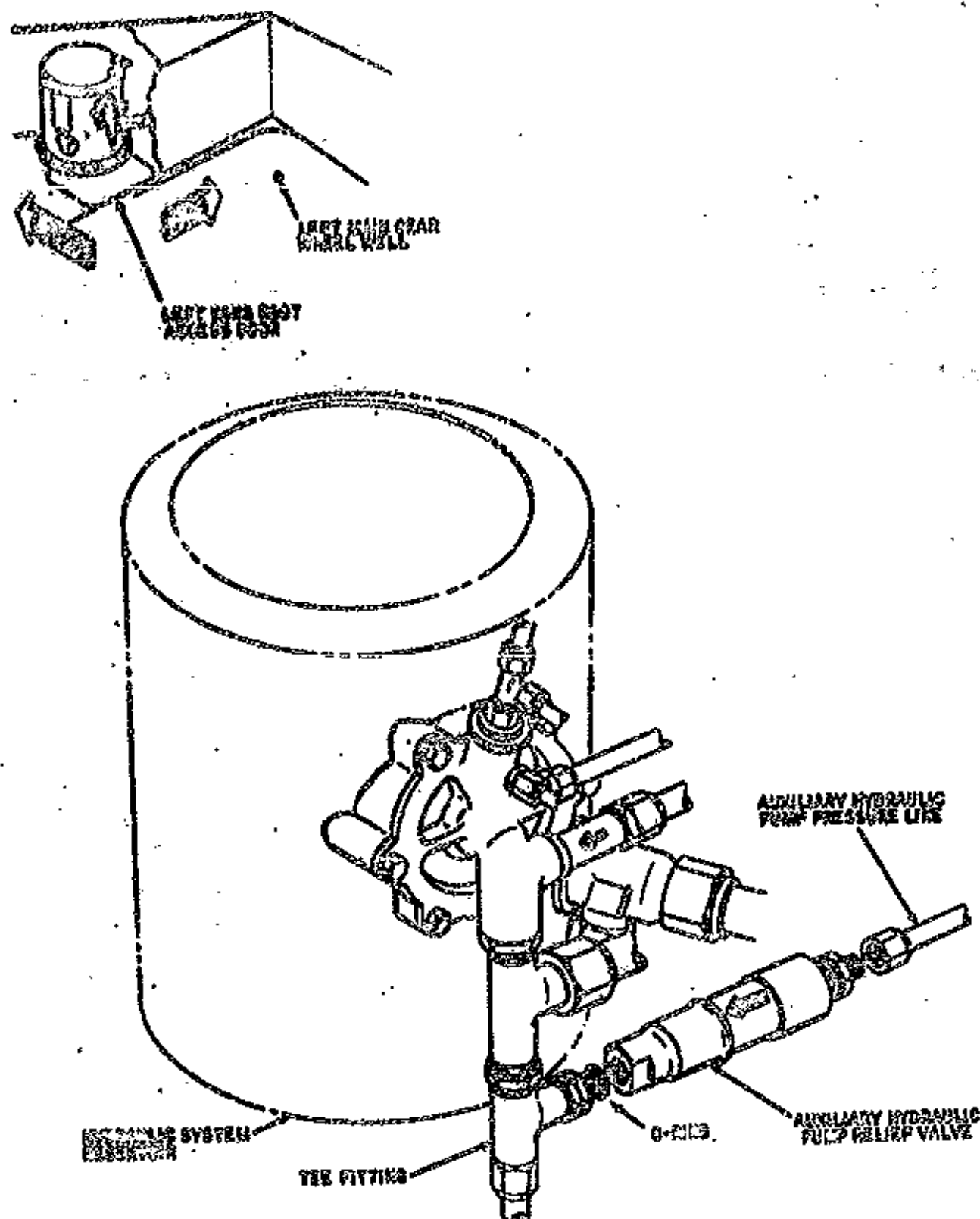
**B. Install Relief Valve**

- (1) Make certain that auxiliary hydraulic pump control circuit breaker located on cabin bus 4 is open.
- (2) Using new O-ring, install fitting in inlet port of relief valve.
- (3) Using new O-ring, install relief valve in tee fitting in reservoir return port A.

**CAUTION:** BE CERTAIN THAT VALVE IS INSTALLED WITH ARROW POINTING TOWARD RESERVOIR.

- (4) Connect auxiliary pump pressure line to inlet port of valve.
- (5) Close auxiliary hydraulic pump circuit breaker.

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#A2-184

Auxiliary Hydraulic Pump Relief Valve -- Installation  
 Figure 201

### 3. Inspection/Check Auxiliary Hydraulic Pump Relief Valve

#### A. Check Relief Valve

- (1) Make certain that relief valve flow arrow (outlet port) is directed toward T-fitting in return port A of reservoir.
- (2) Pressurize hydraulic reservoir (see 29-00, Maintenance Practices).
- (3) Depressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).
- (4) Check relief valve, lines, and fittings for general condition and leaks.
- (5) Shut down auxiliary hydraulic pump and depressurize hydraulic system (see 29-00, Maintenance Practices).

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AUXILIARY HYDRAULIC PUMP RELIEF VALVE - MAINTENANCE PRACTICES

1. General

- A. The auxiliary hydraulic pump relief valve is tied into return port A on the hydraulic system reservoir, located in the left wing root area aft of the star spar.
- B. Access to the relief valve is through the left wing root access door.

2. Removal/Installation Auxiliary Hydraulic Pump Relief Valve

A. Remove Relief Valve

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of circuit breaker panel.
- WARNING:** TAG AND SAFETY CIRCUIT BREAKER (SEE CHAPTER 20).
- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Disconnect auxiliary pump pressure line from inlet port of relief valve.
- (5) Remove relief valve from reducer in T-fitting in reservoir return port A. Discard O-ring.
- (6) Remove fitting from inlet port of relief valve; retain for use in new valve. Discard O-ring.

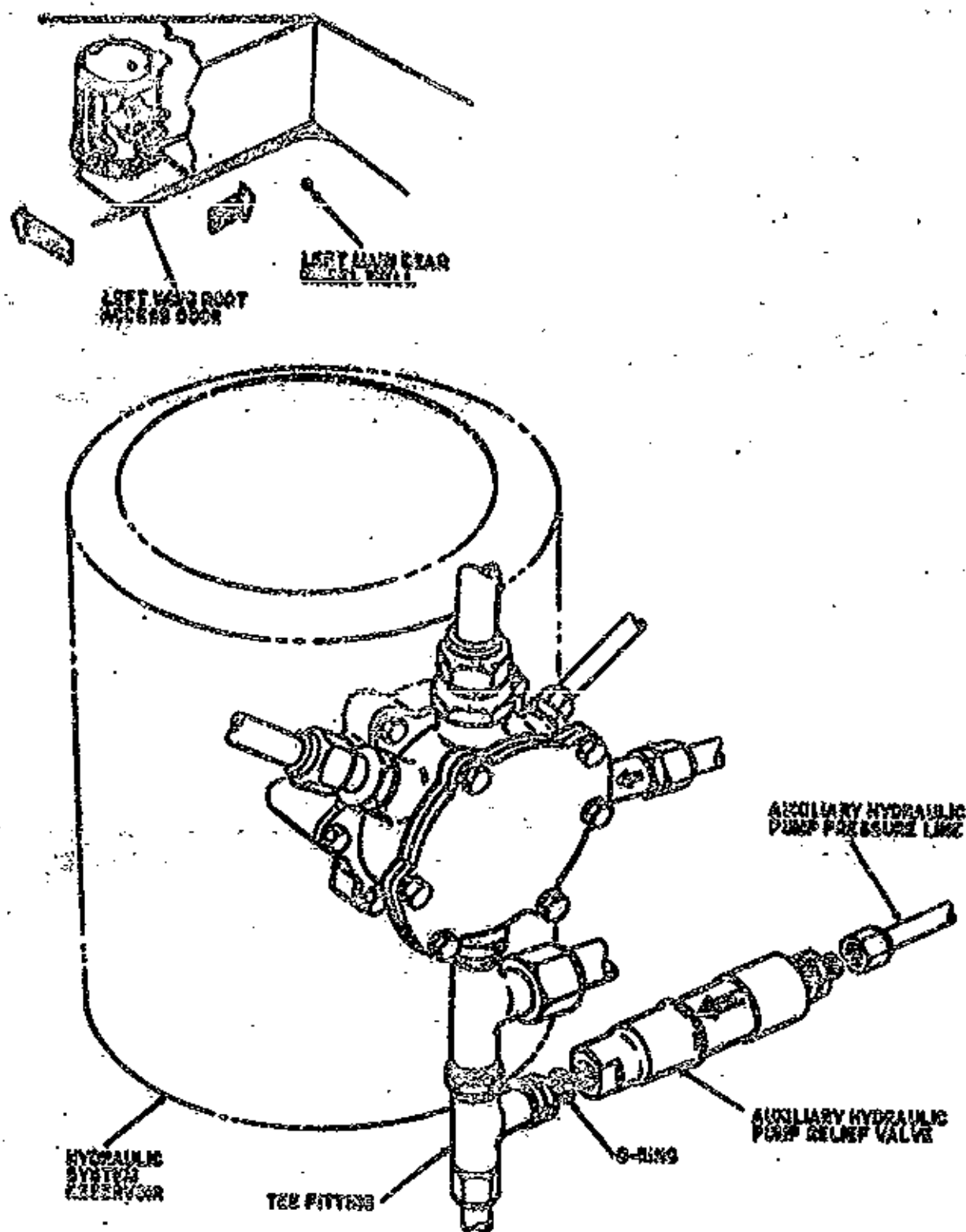
B. Install Relief Valve

- (1) Make certain that auxiliary hydraulic pump control circuit breaker located on cabin bus 4 is open.
- (2) Using new O-ring, install fitting in inlet port of relief valve.
- (3) Using new O-ring, install relief valve in tee fitting in reservoir return port A.

**CAUTION:** BE CERTAIN THAT VALVE IS INSTALLED WITH ARROW POINTING TOWARD RESERVOIR.

- (4) Connect auxiliary pump pressure line to inlet port of valve.
- (5) Close auxiliary hydraulic pump circuit breaker.

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Auxiliary Hydraulic Pump Relief Valve -- Installation  
 Figure 201

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9. Inspection/Check Auxiliary Hydraulic Pump Relief Valve

A. Check Relief Valve

- (1) Make certain that relief valve flow arrow (outlet port) is directed toward T-fitting in return port A of reservoir.
- (2) Pressurize hydraulic reservoir (see 29-00, Maintenance Practices).
- (3) Pressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).
- (4) Check relief valve, lines, and fittings for general condition and leaks.
- (5) Shut down auxiliary hydraulic pump and depressurize hydraulic system (see 29-00, Maintenance Practices).

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AUXILIARY HYDRAULIC SYSTEM FILTER - MAINTENANCE PRACTICES

1. General

- A. The auxiliary hydraulic system filter is located on the forward inboard side of the left main gear wheel well, slightly inboard and above the dual filter and relief valve.
- B. Access is through the left main gear inboard door.

2. Removal/Installation Auxiliary Hydraulic System Filter

A. Remove Filter

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EFC circuit breaker panel.

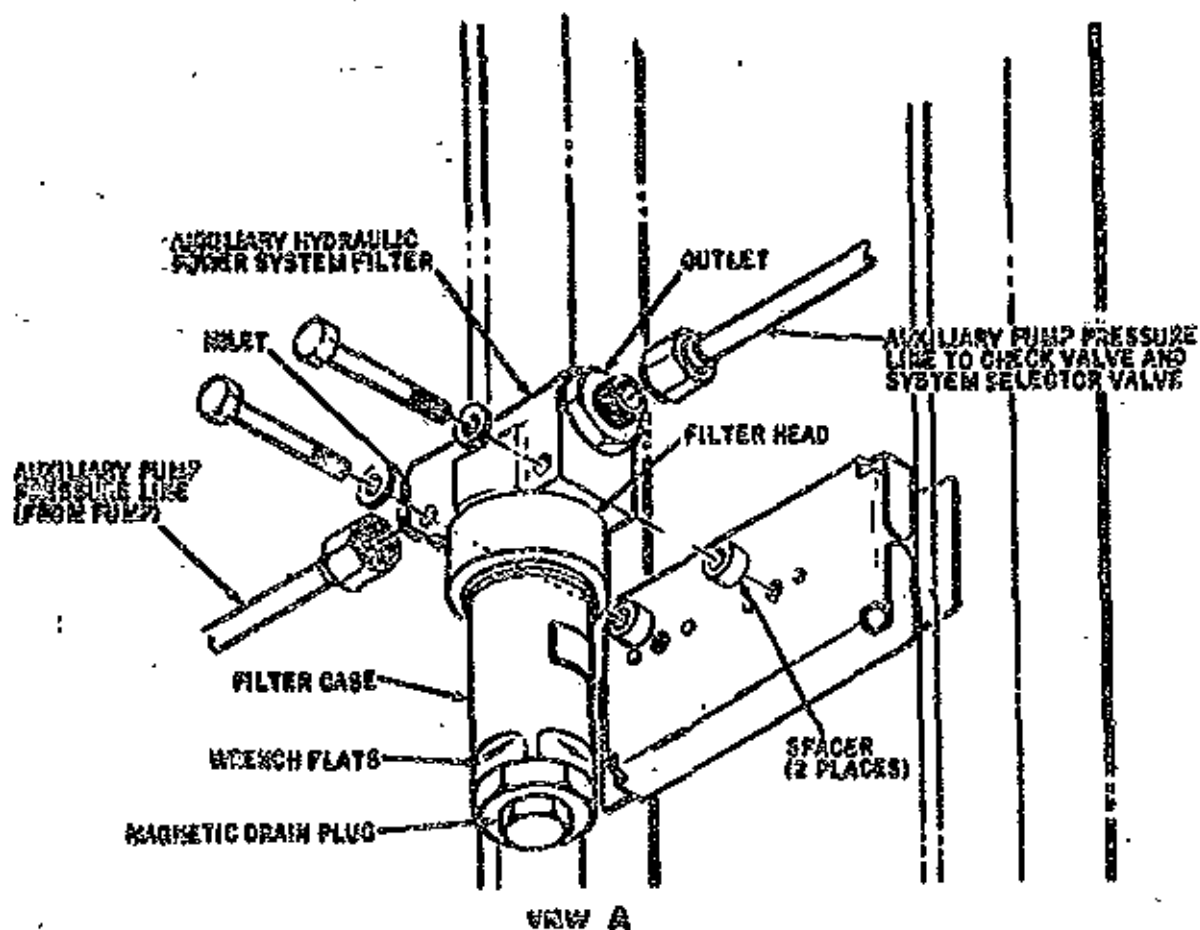
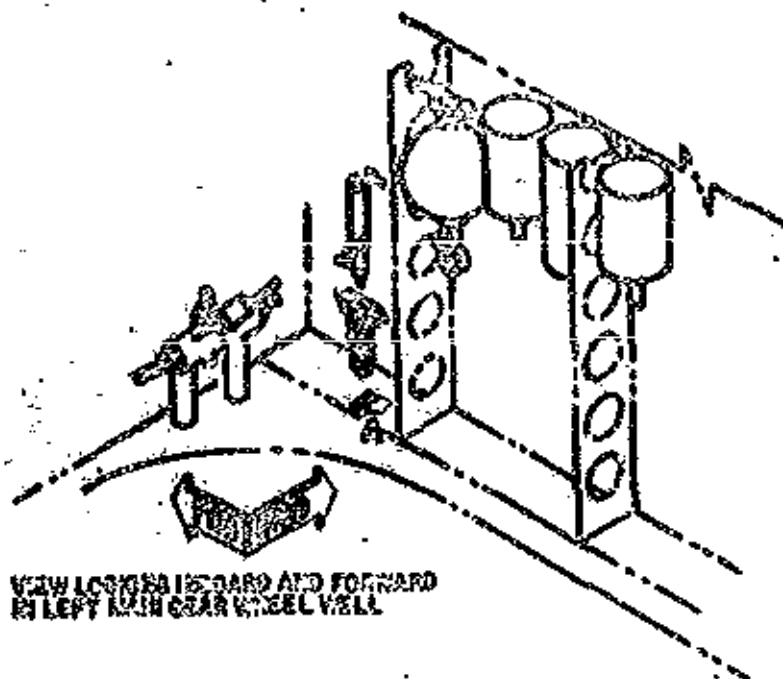
WARNING: TAG AND SAFETY CIRCUIT BREAKER (SEE CHAPTER 20).

- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Disconnect auxiliary hydraulic pump pressure lines from inlet and outlet ports of filter.
- (5) Remove filter.
- (6) Remove fittings from filter head; retain for use in new unit. Discard O-rings.

B. Install Filter

- (1) Make certain that auxiliary hydraulic pump control circuit breaker is open.
- (2) Using new O-rings, install fittings in inlet and outlet port of filter.
- (3) Install filter on bracket with inlet port forward in relation to airplane.
- (4) Connect auxiliary hydraulic pump pressure lines to filter ports.
- (5) Close auxiliary hydraulic pump control circuit breaker.

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Auxiliary Hydraulic Power System Filter -- Installation  
 Figure 201



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**3. Inspection/Check Auxiliary Hydraulic System Filter**

**A. Check Filter**

- (1) Pressurize hydraulic reservoir (see 29-00, Maintenance Practices).
- (2) Pressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).
- (3) Check filter, hydraulic lines, and fittings for security of attachment, general condition, and leaks.
- (4) Shut down auxiliary hydraulic pump and depressurize hydraulic system (see 29-00, Maintenance Practices).
- (5) Remove magnetic drain plug from bottom of filter and discard O-ring. Check for metal particles which indicate impending failure of auxiliary hydraulic pump.
- (6) Using new O-ring, install magnetic drain plug in bottom of filter. Tighten plug to torque of 150 ( $\pm 15$ ) inch-pounds.
- (7) Safety magnetic drain plug with lockwire.

AUXILIARY HYDRAULIC SYSTEM FILTER - MAINTENANCE PRACTICES

1. General

- A. On airplanes 801-811, the auxiliary hydraulic system filter is located in the left wing root, just forward of the auxiliary hydraulic pump. On airplanes 812-819, 860 and subsequent, the filter is located on the forward inboard side of the left main gear wheel well, slightly inboard and above the fuel filter and relief valve.
- B. On airplanes 801-811, access is through the left wing root access door. On airplanes 812-819, 860 and subsequent, access is through the left main inboard door.

2. Removal/Installation Auxiliary Hydraulic System Filter

A. Remove Filter

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EPC circuit breaker panel.

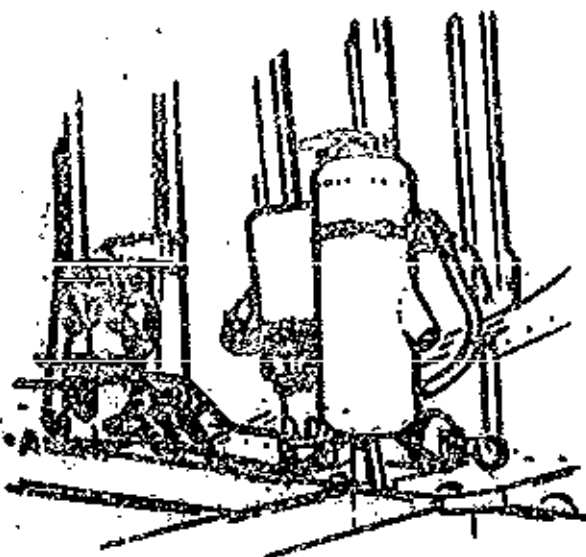
WARNING: TAG AND SAFETY CIRCUIT BREAKER (SEE CHAPTER 20).

- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Disconnect auxiliary hydraulic pump pressure lines from inlet and outlet ports of filter.
- (5) Remove filter.
- (6) Remove fittings from filter head; retain for use in new unit. Discard O-rings.

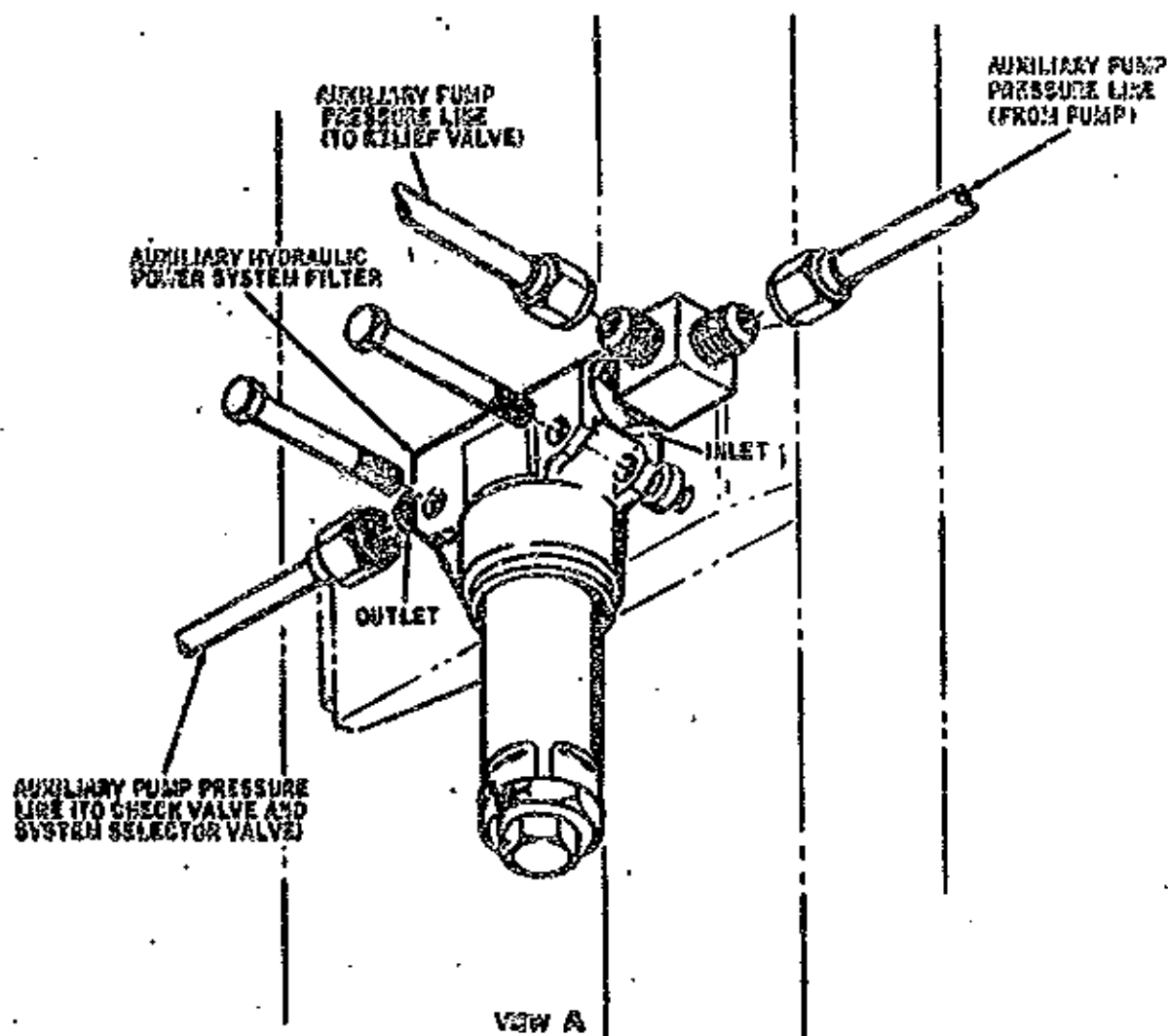
B. Install Filter

- (1) Make certain that auxiliary hydraulic pump control circuit breaker is open.
- (2) Using new O-rings, install fittings in inlet and outlet port of filter.
- (3) On airplanes 801-811, install filter on bracket with outlet port forward in relation to airplane.
- (4) On airplanes 812-819, 860 and subsequent, install filter on bracket with inlet port forward in relation to airplane.

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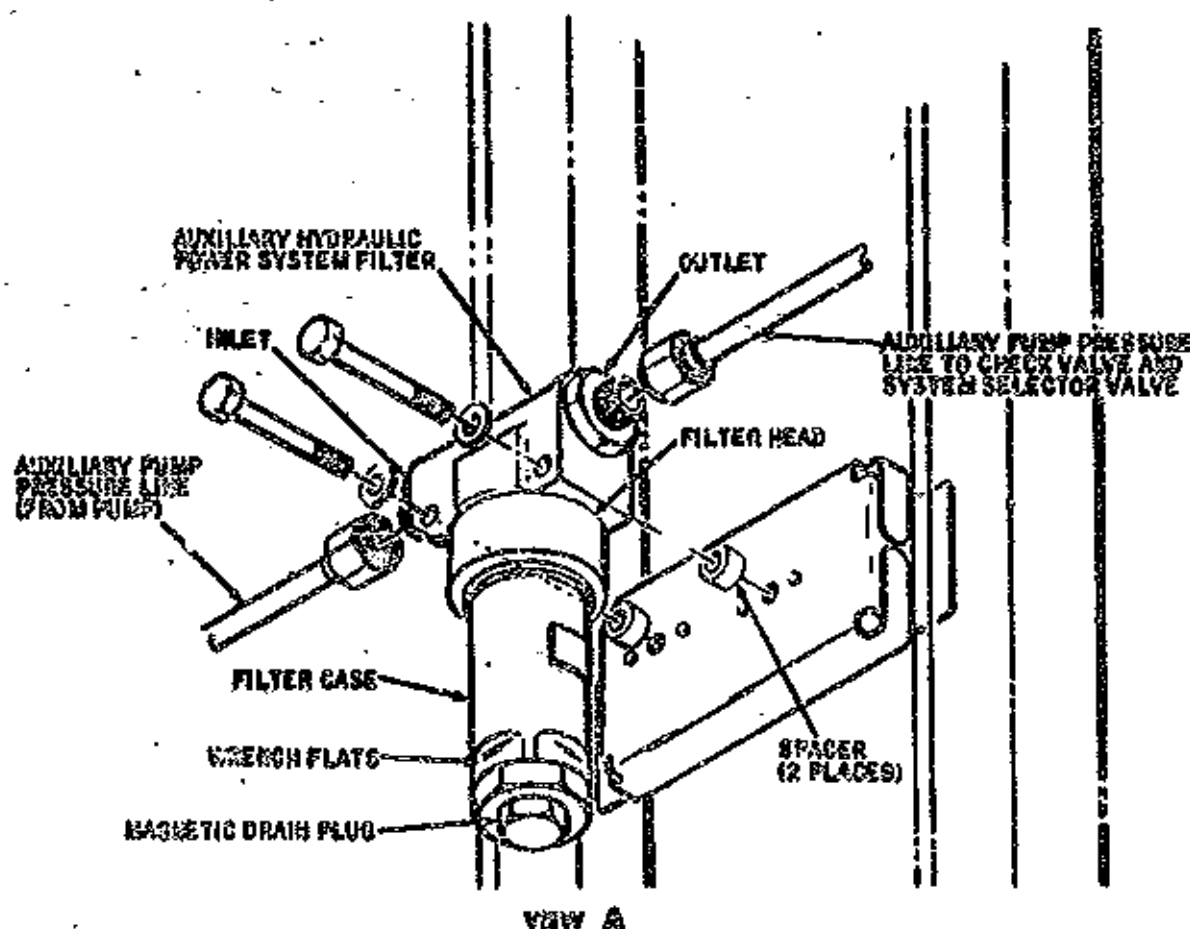
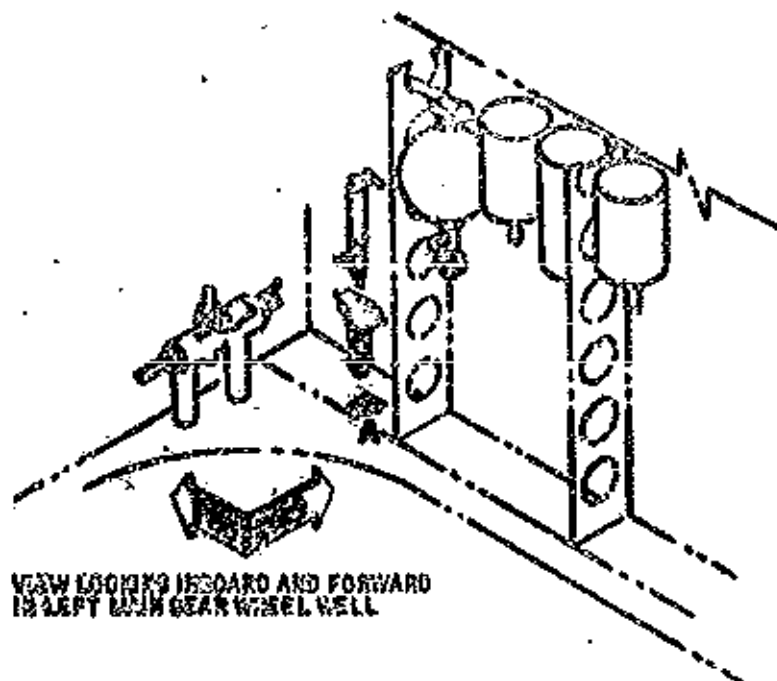
VIEW LOOKING FORWARD AND OUTBOARD  
 IN LEFT WING ROOT AREA



Auxiliary Hydraulic Power System Filter -- Installation  
 (Airplanes 801-811)  
 Figure 201 (Sheet 1)

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HA3-155

Auxiliary Hydraulic Power System Filter -- Installation  
 (Airplanes 812-822, 860 and Subsequent)  
 Figure 201 (Sheet 2)

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- (5) Connect auxiliary hydraulic pump pressure lines to filter ports.
- (6) Close auxiliary hydraulic pump control circuit breaker.

3. Inspection/Check Auxiliary Hydraulic System Filter

A. Check Filter

- (1) Pressurize hydraulic reservoir (see 29-00, Maintenance Practices).
- (2) Pressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).
- (3) Check filter, hydraulic lines, and fittings for security of attachment, general condition, and leaks.
- (4) Shut down auxiliary hydraulic pump and depressurize hydraulic system (see 29-00, Maintenance Practices).
- (5) Remove magnetic drain plug from bottom of filter and discard O-ring. Check for metal particles which indicate impending failure of auxiliary hydraulic pump.
- (6) Using new O-ring, install magnetic drain plug in bottom of filter. Tighten plug to torque of 150 (±15) inch-pounds.
- (7) Safety magnetic drain plug with lockwire.

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AUXILIARY HYDRAULIC SYSTEM FILTER ELEMENT - MAINTENANCE PRACTICES

1. General

- A. The auxiliary hydraulic system filter is located on the forward inboard side of the left main gear wheel well, slightly inboard and above the dual filter and relief valve.
- B. The filter element is a stainless steel mesh, cleanable-type element. The ultrasonic method is recommended for cleaning filter elements.
- C. Access is through the left main gear inboard door.

2. Tools and Equipment Required

- A. Versol cleaning solvent (Federal Specification TT-T-291) is used for cleaning filter head, bowl, and magnetic drain plug.

3. Removal/Installation Auxiliary Hydraulic Filter Element

A. Remove Filter Element

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EPC circuit breaker panel.

WARNING: TAG AND SAFETY THE CIRCUIT BREAKER (SEE CHAPTER 20).

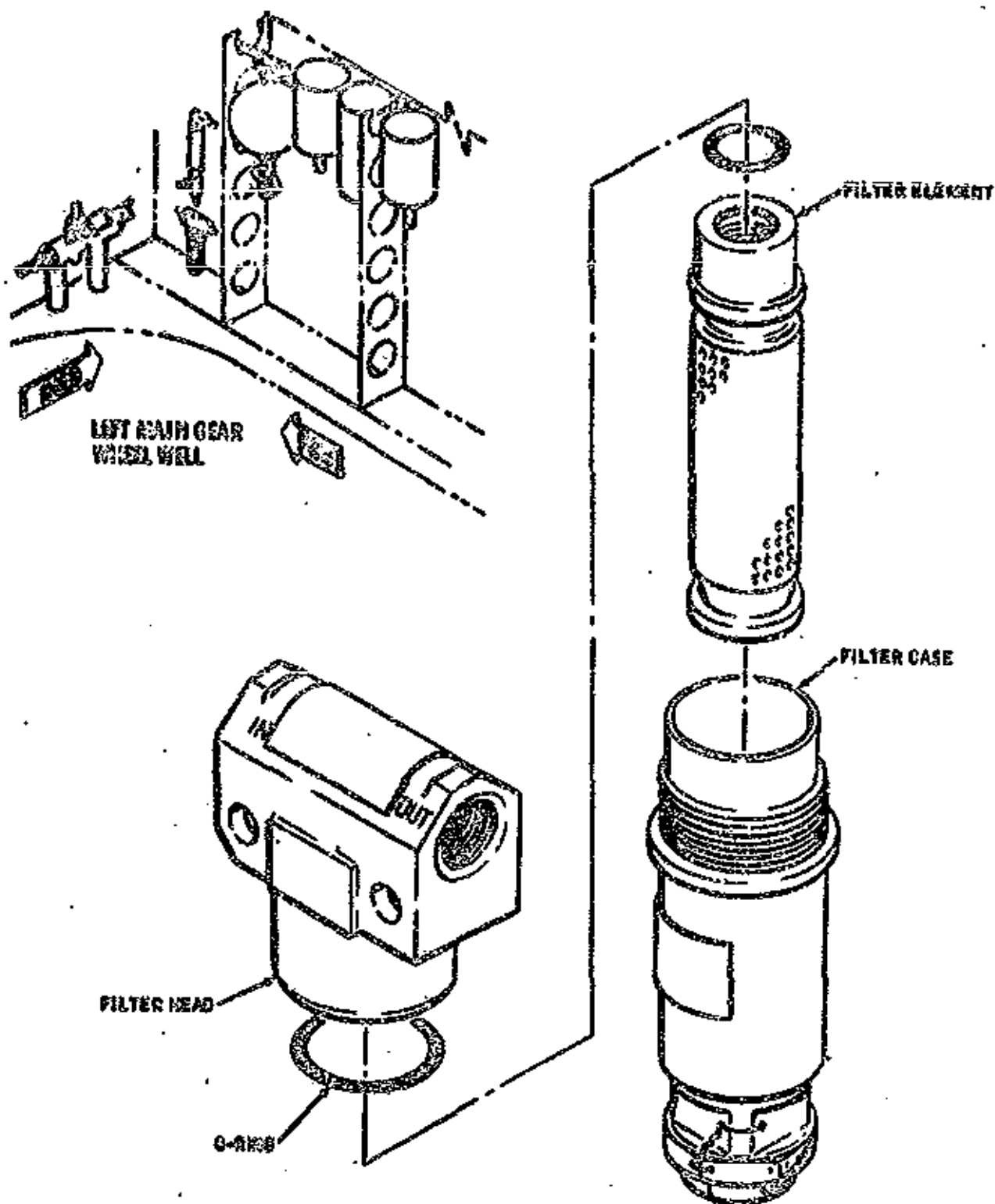
- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Remove magnetic drain plug from bottom of filter bowl.
- (5) Remove filter bowl from head.
- (6) Remove filter element from head.

NOTE: Grasp filter element firmly and gently rock from side to side while withdrawing the element from the head.

- (7) Wash filter bowl, filter head, and magnetic drain plug with clean Versol (Federal Specification TT-T-291) and air-dry.
- (8) Clean off any magnetic particles on magnetic drain plug with clean, lint-free cloth.

CAUTION: PLACE MAGNETIC PLUG IN A CLEAN CONTAINER UNTIL READY FOR INSTALLATION IN THE FILTER CASE.

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HA2-167

Auxiliary Hydraulic System Filter Element -- Installation  
 Figure 201

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**B. Install Filter Element**

- (1) Make certain that auxiliary hydraulic pump control circuit breaker is open.
- (2) Using new O-ring, install filter element into filter head.
- (3) Using new O-ring, install filter bowl. Tighten bowl to torque of 120 to 180 inch-pounds and safety with lockwire.
- (4) Using new O-ring, install magnetic drain plug in filter bowl. Tighten plug to torque of 150 (+15) inch-pounds and safety with lockwire.
- (5) Close auxiliary hydraulic pump control circuit breaker.

**4. Inspection/Check Auxiliary Hydraulic System Filter Element**

**A. Check Filter Element**

- (1) Pressurize hydraulic reservoir (see 29-00, Maintenance Practices).
- (2) Pressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).
- (3) Check filter, hydraulic lines, and fittings for security of attachment, general condition, and leaks.
- (4) Check for security of safety lockwire between head and bowl, and between bowl and magnetic drain plug.
- (5) Shut down auxiliary hydraulic pump and depressurize hydraulic system (see 29-00, Maintenance Practices).



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AUXILIARY HYDRAULIC SYSTEM FILTER ELEMENT - MAINTENANCE PRACTICES

1. General

- A. On airplanes 801-811, the auxiliary hydraulic system filter is located in the left wing root, just forward of the auxiliary hydraulic pump. On airplanes 812-822, 860 and subsequent, the filter is located on the forward inboard side of the left main gear wheel well, slightly inboard and above the dual filter and relief valve.
- B. On airplanes 801-811, access is through the left wing root access door. On airplanes 812-822, 860 and subsequent, access is through the left main gear inboard door.
- C. The filter element is a stainless steel mesh, cleanable-type element. The ultrasonic method is recommended for cleaning filter elements.

2. Tools and Equipment Required

- A. Varsol cleaning solvent (Federal Specification TT-T-291) is used for cleaning filter head, bowl, and magnetic drain plug.

3. Removal/Installation Auxiliary Hydraulic Filter Element

A. Remove Filter Element

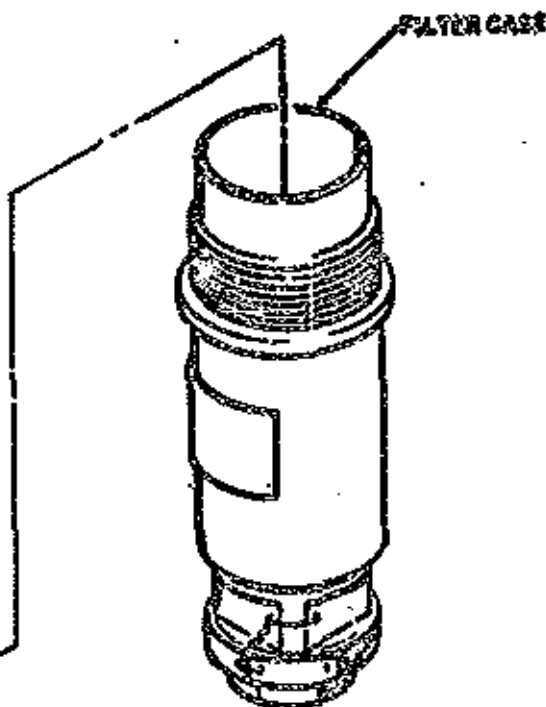
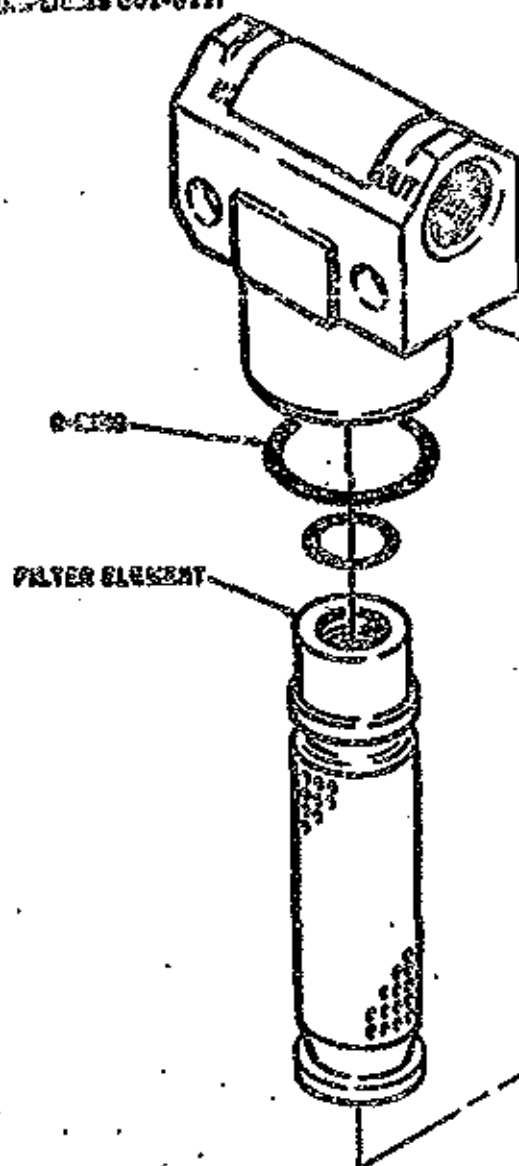
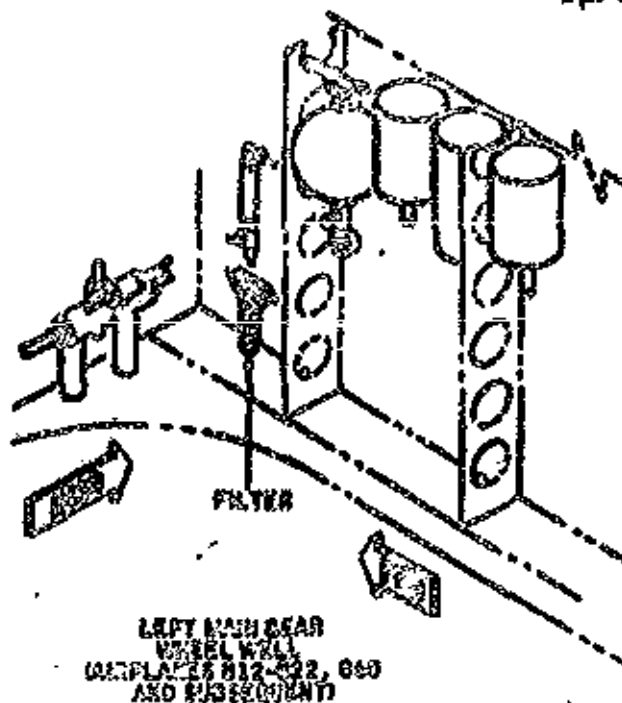
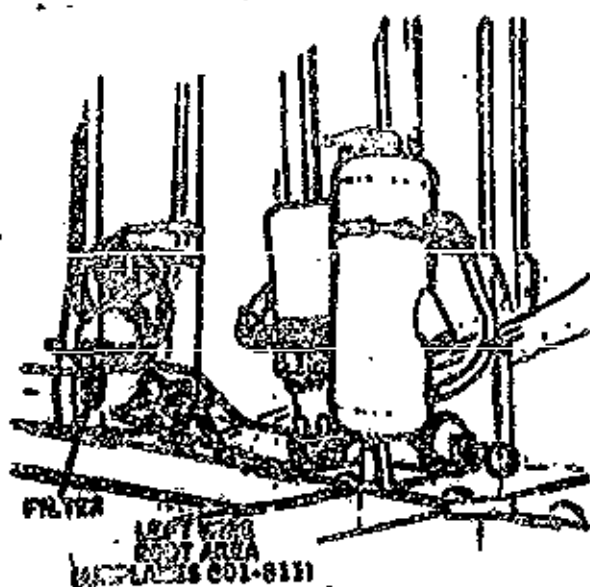
- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EPC circuit breaker panel.

**WARNING:** TAG AND SAFETY THE CIRCUIT BREAKER (SEE CHAPTER 20).

- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Remove magnetic drain plug from bottom of filter bowl.
- (5) Remove filter bowl from head.
- (6) Remove filter element from head.

**NOTE:** Grasp filter element firmly and gently rock from side to side while withdrawing the element from the head.

- (7) Wash filter bowl, filter head, and magnetic drain plug with clean Varsol (Federal Specification TT-T-291) and air-dry.



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- (6) Clean off any magnetic particles on magnetic drain plug with clean, lint-free cloth.

**CAUTION:** PLACE MAGNETIC PLUG IN A CLEAN CONTAINER UNTIL READY FOR INSTALLATION IN THE FILTER CASE.

**B. Install Filter Element**

- (1) Make certain that auxiliary hydraulic pump control circuit breaker, located on EPC circuit breaker panel is open.
- (2) Using new O-ring, install filter element into filter head.
- (3) Using new O-ring, install filter bowl. Tighten bowl to torque of 120 to 180 inch-pounds and safety with lockwire.
- (4) Using new O-ring, install magnetic drain plug in filter bowl. Tighten plug to torque of 150 (±15) inch-pounds and safety with lockwire.
- (5) Close auxiliary hydraulic pump control circuit breaker.

**4. Inspection/Check Auxiliary Hydraulic System Filter Element****A. Check Filter Element**

- (1) Pressurize hydraulic reservoir (see 29-00, Maintenance Practices).
- (2) Pressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).
- (3) Check filter, hydraulic lines, and fittings for security of attachment, general condition, and leaks.
- (4) Check for security of safety lockwire between head and bowl, and between bowl and magnetic drain plug.
- (5) Shut down auxiliary hydraulic pump and depressurize hydraulic system (see 29-00, Maintenance Practices).

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AUXILIARY HYDRAULIC SYSTEM CHECK VALVE - MAINTENANCE PRACTICES

1. General

- A. The auxiliary hydraulic system check valve is located in the left main gear wheel well aft of the rear spar and just above the auxiliary hydraulic system filter.
- B. Access to the check valve is through the left main gear inboard door.

2. Removal/Installation Auxiliary Hydraulic System Check Valve

A. Remove Check Valve

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of circuit breaker panel.

**WARNING:** TAG AND SAFETY CIRCUIT BREAKER (SEE CHAPTER 20).

- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Disconnect line from each end of check valve.
- (5) Remove check valve.

B. Install Check Valve

- (1) Make certain that auxiliary hydraulic pump control circuit breaker located on cabin bus 4 is open.
- (2) Install check valve.

**CAUTION:** BE CERTAIN THAT VALVE IS INSTALLED WITH FLOW ARROW POINTING INBOARD.

- (3) Connect hydraulic pressure lines to each port of check valve.
- (4) Close auxiliary hydraulic pump control circuit breaker.

3. Inspection/Check Auxiliary Hydraulic System Check Valve

A. Check Check Valve

- (1) Pressurize hydraulic reservoir (see 29-00, Maintenance Practices).

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**BB-2 BINTY BERING**  
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- (2) Pressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).
- (3) Check check valve for proper direction of flow arrow and for leaks.
- (4) Shut down auxiliary hydraulic pump and depressurize hydraulic system (see 29-00, Maintenance Practices).

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AUXILIARY HYDRAULIC SYSTEM SURGE DAMPER ACCUMULATOR - MAINTENANCE PRACTICES

1. General

- A. The auxiliary hydraulic system surge damper accumulator is located in the left wing root area just inboard of the auxiliary hydraulic pump alternate reservoir.
- B. Access to the surge damper accumulator is through the left wing root access door.

2. Tools and Equipment Required

- A. Pressure cylinder (clean, dry, compressed nitrogen).

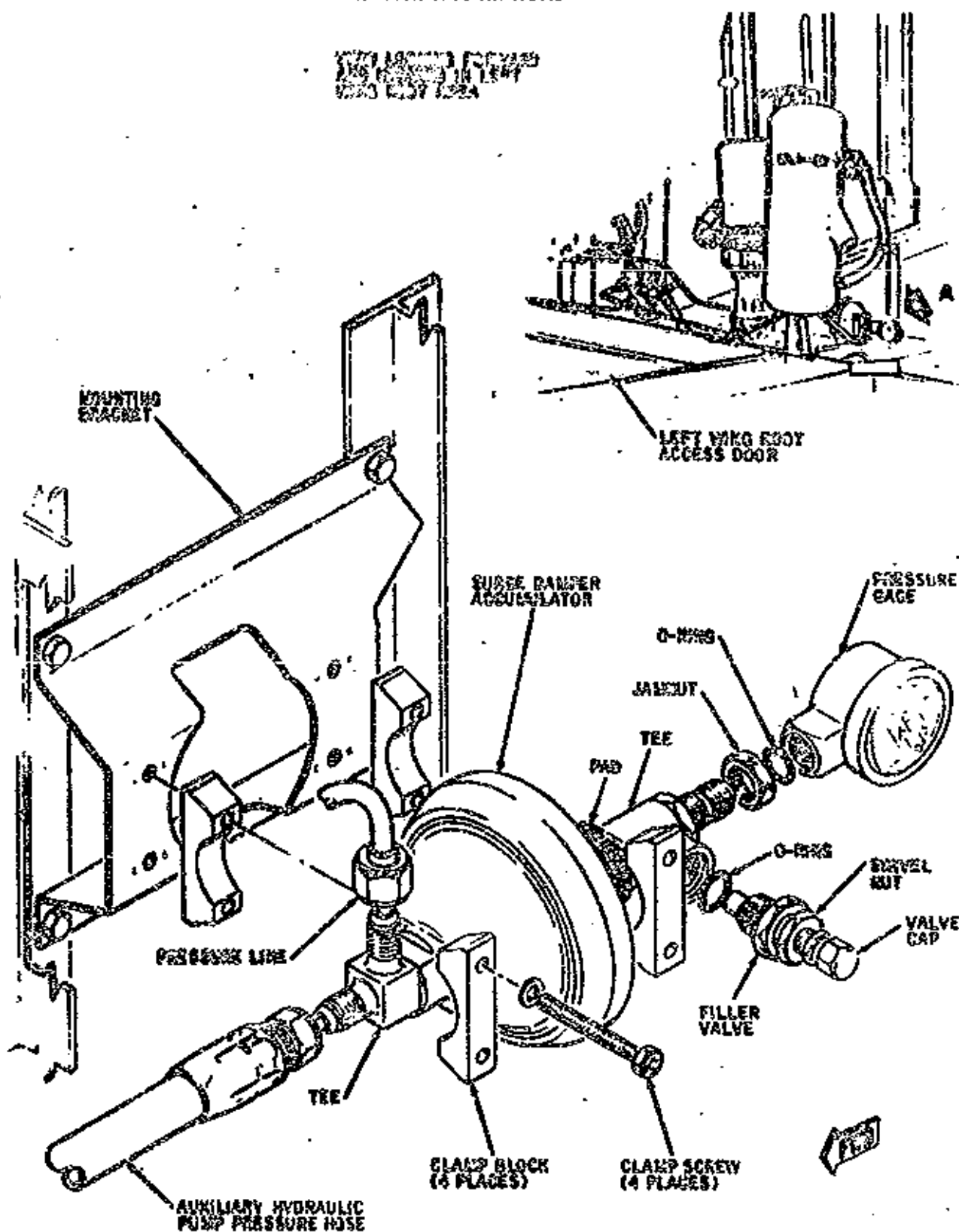
3. Service Auxiliary Hydraulic System Surge Damper Accumulator

- A. Check Auxiliary Hydraulic System Surge Damper Accumulator Pressure

- (1) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (2) Check accumulator gage pressure; gage should indicate 1000 psi.
- (3) If accumulator requires additional pressurization, proceed as follows:
  - (a) Remove filler valve cap.
  - (b) Attach nitrogen service hose chuck to filler valve stem.
  - (c) Loosen filler valve swivel nut a maximum of 3/4 turn.
  - (d) Charge accumulator with dry nitrogen to 1000 ( $\pm 50$ ) psi.
  - (e) Tighten swivel nut to torque of 50 to 70 inch-pounds.
  - (f) Remove service hose.
  - (g) Install valve cap; tighten to maximum fingertightness.

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FIGURE 201  
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VIEW A

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Auxiliary Hydraulic System Surge Dampor  
 Accumulator -- Installation  
 Figure 201

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4. Removal/Installation Auxiliary Hydraulic System Surge Damper Accumulator

A. Remove Accumulator

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EPC circuit breaker panel.

WARNING: EPC AND SAFETY CIRCUIT BREAKER (SEE CHAPTER 20).

- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Relieve nitrogen pressure from accumulator as follows:
  - (a) Remove filler valve cap.
  - (b) Loosen filler valve swivel nut a maximum of 3/4 turn.
  - (c) Depress filler valve core and hold until pressure has bled off to zero; release valve core and tighten swivel nut.
  - (d) Install filler valve cap.
- (5) Disconnect auxiliary hydraulic pump pressure hose from T-fitting at base of accumulator.
- (6) Disconnect pressure line from T-fitting.
- (7) Remove T-fitting from accumulator and retain for use in new unit. Discard O-ring.
- (8) Remove clamp blocks and remove accumulator.
- (9) Remove filler valve and pressure gage and retain for use in new unit. Discard O-ring.

B. Install Accumulator

- (1) Make certain that auxiliary hydraulic pump control circuit breaker is open.
- (2) Using new O-ring, install T-fitting in hydraulic pressure port.
- (3) Using new O-rings, install filler valve and pressure gage in nitrogen pressure port fitting.
- (4) Place accumulator in position and secure with clamp blocks.

NOTE: Make certain that gage and filler valve are accessible after installation.



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- (5) Connect pressure line to T-fitting.
- (6) Connect auxiliary hydraulic pump pressure hose to T-fitting.
- (7) Charge accumulator with dry nitrogen (see paragraph 3).
- (8) Close auxiliary hydraulic pump control circuit breaker.

5. Inspection/Check Auxiliary Hydraulic System Surge Damper Accumulator

A. Check Accumulator

- (1) Pressurize hydraulic reservoir (see 29-00, Maintenance Practices).
- (2) Pressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).
- (3) Check auxiliary hydraulic pump pressure hose and pressure line fittings at accumulator T-fitting for security of attachment and leaks.
- (4) Check accumulator pressure gage for 2600- to 3000-psi indication.
- (5) Check nitrogen port, filler valve, and pressure gage for nitrogen leaks.
- (6) Shut down auxiliary hydraulic pump and depressurize hydraulic system (see 29-00, Maintenance Practices).

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AUXILIARY HYDRAULIC PUMP ALTERNATE  
RESERVOIR - MAINTENANCE PRACTICES

1. General

- A. The auxiliary hydraulic pump alternate reservoir is located in the left wing root area just aft of the auxiliary hydraulic pump.
- B. Access to the alternate reservoir is through the left wing root access door.

2. Servicing

A. Filling Procedure

NOTE: The auxiliary hydraulic pump alternate reservoir is filled and maintained in a filled condition by return fluid flow from the wing flap system.

- (1) Place hydraulic system selector control lever in general system (normal) position.
- (2) Pressurize hydraulic system (see 29-00, Maintenance Practices).

WARNING: MAKE CERTAIN THAT LANDING GEAR CONTROL LEVER IN DOWN POSITION AND LANDING GEAR GROUND LOCKING ARE INSTALLED.

- (3) Cycle wing flaps by placing wing flap control handle in up and down positions until hydraulic fluid can be seen in alternate reservoir sight gage.

WARNING: MAKE CERTAIN THAT WING FLAP AREAS ARE CLEAR OF PERSONNEL AND OBSTRUCTIONS BEFORE CYCLING FLAPS.

- (4) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (5) Fill hydraulic system reservoir as described on instruction placard on reservoir.

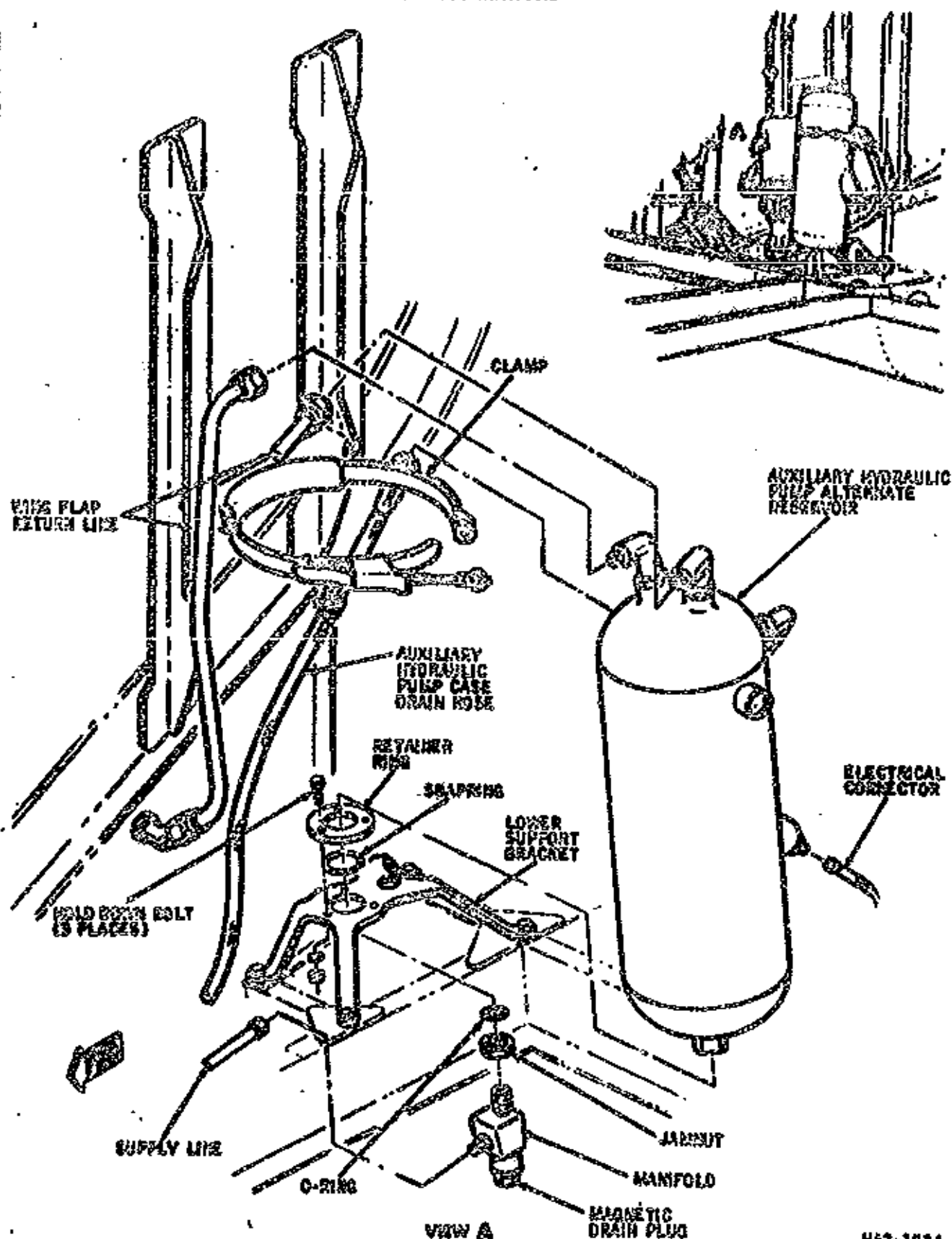
3. Removal/Installation Auxiliary Hydraulic Pump Alternate Reservoir

A. Remove Alternate Reservoir

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of KPC circuit breaker panel and hydraulic system over-temperature rudder and aileron manual indicator circuit breaker located on dc bus 4 section of KPC circuit breaker panel.

WARNING: TAG AND SAFETY CIRCUIT BREAKERS (SEE CHAPTER 20).

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**Auxiliary Hydraulic Pump Alternate  
 Reservoir -- Installation  
 Figure 201**

HA3-180A

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- (2) Place hydraulic system selector control lever in general system (normal) position.
- (3) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (4) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (5) Drain auxiliary hydraulic pump alternate reservoir (see 29-00, Maintenance Practices).
- (6) Disconnect supply line from alternate reservoir magnetic plug manifold.
- (7) Disconnect auxiliary pump case drain line at reservoir bypass port.
- (8) Disconnect electrical connector from emergency hydraulic reservoir low level indicating light switch.
- (9) Disconnect lines from top of reservoir.
- (10) Remove holdown bolts from retainer ring at lower support bracket.
- (11) Loosen clamp on upper support bracket and remove reservoir.
- (12) Remove fittings from reservoir; retain for use in new unit. Discard O-rings.

**B. Install Alternate Reservoir**

- (1) Make certain that auxiliary hydraulic pump control and hydraulic system overtemperature rudder and aileron manual indicator circuit breakers are open.
- (2) Using new O-rings, install fittings in reservoir.
- (3) Position reservoir in support bracket with sight gage facing outboard. Tighten clamp on upper support bracket.
- (4) Install holdown bolts in lower support bracket retainer ring.
- (5) Connect lines at top of reservoir.
- (6) Connect case drain line to port in side of reservoir.
- (7) Connect supply line to magnetic drain plug manifold.
- (8) Connect emergency hydraulic reservoir low level indicating light switch electrical connector.
- (9) Install magnetic drain plug in manifold at bottom of reservoir. Tighten to torque of 312 ( $\pm 20$ ) inch-pounds. Safety with lockwire.

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- (10) Close auxiliary hydraulic pump control and hydraulic overtemperature rudder and aileron manual indicator circuit breakers.

#### 4. Inspection/Check Auxiliary Hydraulic Pump Alternate Reservoir

##### A. Check Alternate Reservoir

- (1) Check emergency hydraulic level indicating light; it should be on when alternate reservoir is empty or below 0.8 gallons (0.666 Imperial gallons, 3.15 liters).
- (2) Make certain that hydraulic system selector control lever is in general system (normal) position.
- (3) Pressurize hydraulic system (see 29-00, Maintenance Practices).

**WARNING:** MAKE CERTAIN THAT LANDING GEAR CONTROL LEVER IS IN THE DOWN POSITION AND THE LANDING GEAR GROUND LOCKPINS ARE INSTALLED.

- (4) Cycle wing flaps by placing wing flap control handle in up and down positions until hydraulic fluid can be seen in alternate reservoir sight gage.

**WARNING:** MAKE CERTAIN THAT WING FLAP AREAS ARE CLEAR OF PERSONNEL AND OBSTRUCTIONS BEFORE CYCLING FLAPS.

- (5) Check that emergency hydraulic reservoir low level light is off when hydraulic fluid is visible in alternate reservoir sight gage.
- (6) Check hydraulic fittings on reservoir and auxiliary hydraulic pump selector valve for leaks.
- (7) Check electrical connector on hydraulic level switch for security of attachment and check wiring for general condition, routing, and clearance.
- (8) Check all hydraulic lines in area for security of attachment and general condition.
- (9) Check magnetic drain plug for safety lockwire.
- (10) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (11) Fill hydraulic system reservoir as described on instruction placard on reservoir.

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AUXILIARY HYDRAULIC PUMP ALTERNATE  
RESERVOIR - MAINTENANCE PRACTICES

1. General

- A. The auxiliary hydraulic pump alternate reservoir is located in the left wing root area just aft of the auxiliary hydraulic pump.
- B. Access to the alternate reservoir is through the left wing root access door.

2. Servicing

A. Filling Procedure

**NOTE:** The auxiliary hydraulic pump alternate reservoir is filled and maintained in a filled condition by return fluid flow from the wing flap system.

- (1) Place hydraulic system selector control lever in general system (normal) position.
- (2) Pressurize hydraulic system (see 29-00, Maintenance Practices).

**WARNING:** MAKE CERTAIN THAT LANDING GEAR CONTROL LEVER IS DOWN POSITION AND LANDING GEAR GROUND LOCKPINS ARE INSTALLED.

- (3) Cycle wing flaps by placing wing flap control handle in up and down positions until hydraulic fluid can be seen in alternate reservoir sight gage.

**WARNING:** MAKE CERTAIN THAT WING FLAP AREAS ARE CLEAR OF PERSONNEL AND OBSTRUCTIONS BEFORE CYCLING FLAPS.

- (4) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (5) Fill hydraulic system reservoir as described on instruction placard on reservoir.

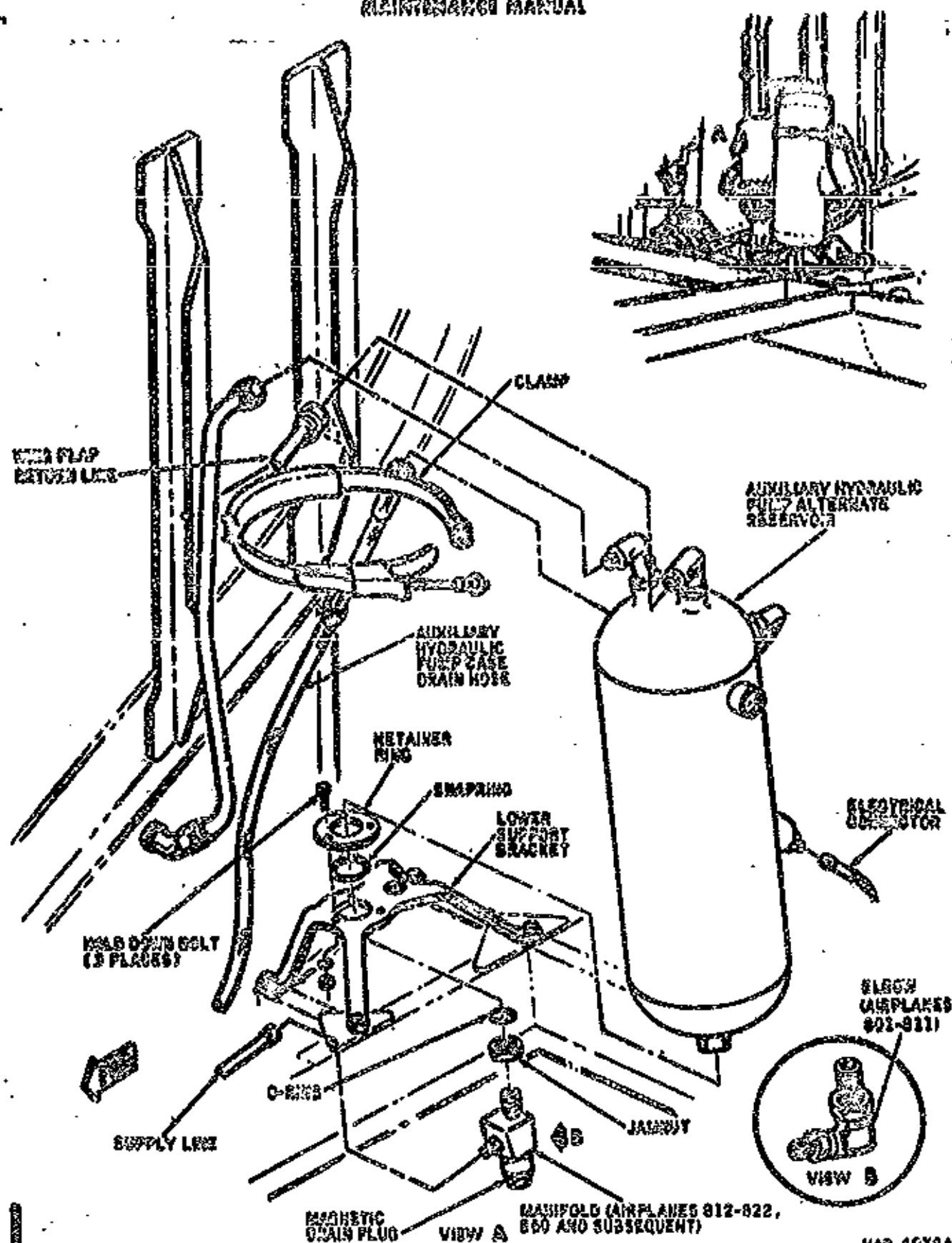
3. Removal/Installation Auxiliary Hydraulic Pump Alternate Reservoir

A. Remove Alternate Reservoir

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EPC circuit breaker panel and hydraulic system over-temperature rudder and aileron manual indicator circuit breaker located on dc bus 4 section of EPC circuit breaker panel.

**WARNING:** TAG AND SAFETY CIRCUIT BREAKERS (SEE CHAPTER 20).

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Auxiliary Hydraulic Pump Alternate Reservoir -- Installation  
 Figure 201

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- (2) Place hydraulic system selector control lever in general system (normal) position.
- (3) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (4) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (5) Drain auxiliary hydraulic pump alternate reservoir (see 29-00, Maintenance Practices).
- (6) Disconnect supply line from bottom of alternate reservoir.
- (7) Disconnect auxiliary pump bypass line at reservoir bypass port.
- (8) Disconnect electrical connector from emergency hydraulic reservoir low level indicating light switch.
- (9) Disconnect lines from top of reservoir.
- (10) Remove holdown bolts from retainer ring at lower support bracket.
- (11) Loosen clamp on upper support bracket and remove reservoir.
- (12) Remove fittings from reservoir; retain for use in new unit. Discard O-rings.

**B. Install Alternate Reservoir**

- (1) Make certain that auxiliary hydraulic pump control and hydraulic system overtemperature rudder and aileron manual indicator circuit breakers, located on EPC circuit breaker panel, are open.
- (2) Using new O-rings, install fittings in reservoir.
- (3) Position reservoir in support bracket with sight gage facing outboard. Tighten clamp on upper support bracket.
- (4) Install holdown bolts in lower support bracket retainer ring.
- (5) Connect lines at top of reservoir.
- (6) Connect bypass line to port in side of reservoir.
- (7) Connect supply line to bottom of reservoir.
- (8) Connect emergency hydraulic reservoir low level indicating light switch electrical connector.



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(9) On airplanes 812 - 802, 850 and subsequent, install magnetic drain plug in manifold at bottom of reservoir. Tighten to torque of 312 (#20) inch-pounds. Safety with lockwire.

(10) Close auxiliary hydraulic pump control and hydraulic overtemperature switch and aileron manual indicator circuit breakers.

Inspection/Check Auxiliary Hydraulic Pump Alternate Reservoir

A. Check Alternate Reservoir

(1) Check emergency hydraulic level indicating light; it should be on when alternate reservoir is empty or below 0.8 gallon (0.666 Imperial gallons, 3.15 liters).

(2) Make certain that hydraulic system selector control lever is in general system (normal) position.

(3) Pressurize hydraulic system (see 29-00, Maintenance Practices).

**WARNING:** MAKE CERTAIN THAT LANDING GEAR CONTROL LEVER IS IN THE DOWN POSITION AND THE LANDING GEAR GROUND LOCKING ARE INSTALLED.

(4) Cycle wing flaps by placing wing flap control handle in up and down positions until hydraulic fluid can be seen in alternate reservoir sight gage.

**WARNING:** MAKE CERTAIN THAT WING FLAP AREAS ARE CLEAR OF PERSONNEL AND OBSTRUCTIONS BEFORE CYCLING FLAPS.

(5) Check that emergency hydraulic reservoir low level light is off when hydraulic fluid is visible in alternate reservoir sight gage.

(6) Check hydraulic fittings on reservoir and auxiliary hydraulic pump selector valve for leaks.

(7) Check electrical connector on hydraulic level switch for security of attachment and check wiring for general condition, routing, and clearance.

(8) Check all hydraulic lines in area for security of attachment and general condition.

(9) On airplanes 812-822, 860 and subsequent, check magnetic drain plug for safety lockwire.

(10) Depressurize hydraulic system (see 29-00, Maintenance Practices).

(11) Fill hydraulic system reservoir as described on instruction placard on reservoir.

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GROUND SERVICE PRESSURE AND SUPPLY CONNECTORS -  
MAINTENANCE PRACTICES

1. General

- A. The ground service pressure and supply connectors are located on the floor, in the left wing root, aft of the wing rear spar.
- B. Access to the pressure and supply connector is through the wing root access door.

2. Removal/Installation Ground Service Pressure and Supply Connectors

A. Remove Ground Service Pressure Connector

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EPC circuit breaker panel.

WARNING: TAG AND SAFETY CIRCUIT BREAKER (SEE CHAPTER 20).

- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Disconnect hydraulic pressure line from ground service pressure connector.
- (5) Remove ground service pressure connector.

B. Install Ground Service Pressure Connector

- (1) Make certain that auxiliary hydraulic pump control circuit breaker is open.
- (2) Install ground service pressure connector.
- (3) Connect hydraulic pressure line to ground service pressure connector.
- (4) Close auxiliary hydraulic pump control circuit breaker.

C. Remove Ground Service Supply Connector

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EPC circuit breaker panel.

WARNING: TAG AND SAFETY CIRCUIT BREAKER (SEE CHAPTER 20).

- (2) Depressurize hydraulic system (see 29-00, Maintenance Practices).

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- (3) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (4) Drain hydraulic system reservoir (see 29-00, Maintenance Practices).
- (5) Remove mounting screws, loosen jamnut, and remove ground service supply connector from T-fitting in supply line. Discard O-ring.

**D. Install Ground Service Supply Connector**

- (1) Make certain that auxiliary hydraulic pump control circuit breaker is open.
- (2) Install new O-ring on ground service supply connector and screw connector into T-fitting in supply line.
- (3) Install mounting screws through connector flange.
- (4) Tighten jamnut.
- (5) Fill reservoir as described on instruction placard on reservoir.
- (6) Close auxiliary hydraulic pump control circuit breaker.

**3. Inspection/Check Ground Service Pressure and Supply Connectors**

- (1) Pressurize hydraulic system with test stand (see 29-00, Maintenance Practices).

**WARNING:** MAKE CERTAIN THAT LANDING GEAR CONTROL LEVER IS IN DOWN POSITION AND LANDING GEAR GROUND LOCKPINS ARE INSTALLED.

- (2) Check ground service connectors for general condition, security of attachment and leaks.
- (3) Shut down test stand and depressurize hydraulic system (see 29-00, Maintenance Practices).

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AUXILIARY HYDRAULIC PUMP CONTROL - MAINTENANCE PRACTICES

1. Inspection/Check Auxiliary Hydraulic Pump Control

A. Check Auxiliary Hydraulic Pump Control

- (1) Place hydraulic system selector control lever in general system (normal) position.
- (2) Momentarily place auxiliary hydraulic pump control switch in start (hold only in emergency) position.

**WARNING:** MAKE CERTAIN THAT LANDING GEAR CONTROL LEVER IS IN DOWN POSITION AND LANDING GEAR GROUND LOCKING ARE INSTALLED.

- (3) Auxiliary pump on indicating light should come on.
- (4) Hydraulic system pressure indicator should indicate 2800 to 3000 psi.
- (5) Momentarily place auxiliary hydraulic pump control switch in stop position.
- (6) Auxiliary hydraulic pump should stop, auxiliary pump on indicating light should go off, and hydraulic system pressure should gradually fall off.
- (7) Depressurize hydraulic system (see 29-00, Maintenance Practices).

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**DC-8 SIXTY EIGHT**  
**MAINTENANCE MANUAL**

**AUXILIARY HYDRAULIC PUMP CONTROL - MAINTENANCE PRACTICES**

**1. Inspection/Check Auxiliary Hydraulic Pump Control**

**A. Check Auxiliary Hydraulic Pump Control**

- (1) Place hydraulic system selector control lever in general system (normal) position.
- (2) Momentarily place auxiliary hydraulic pump control switch in start (hold only in emergency) position.

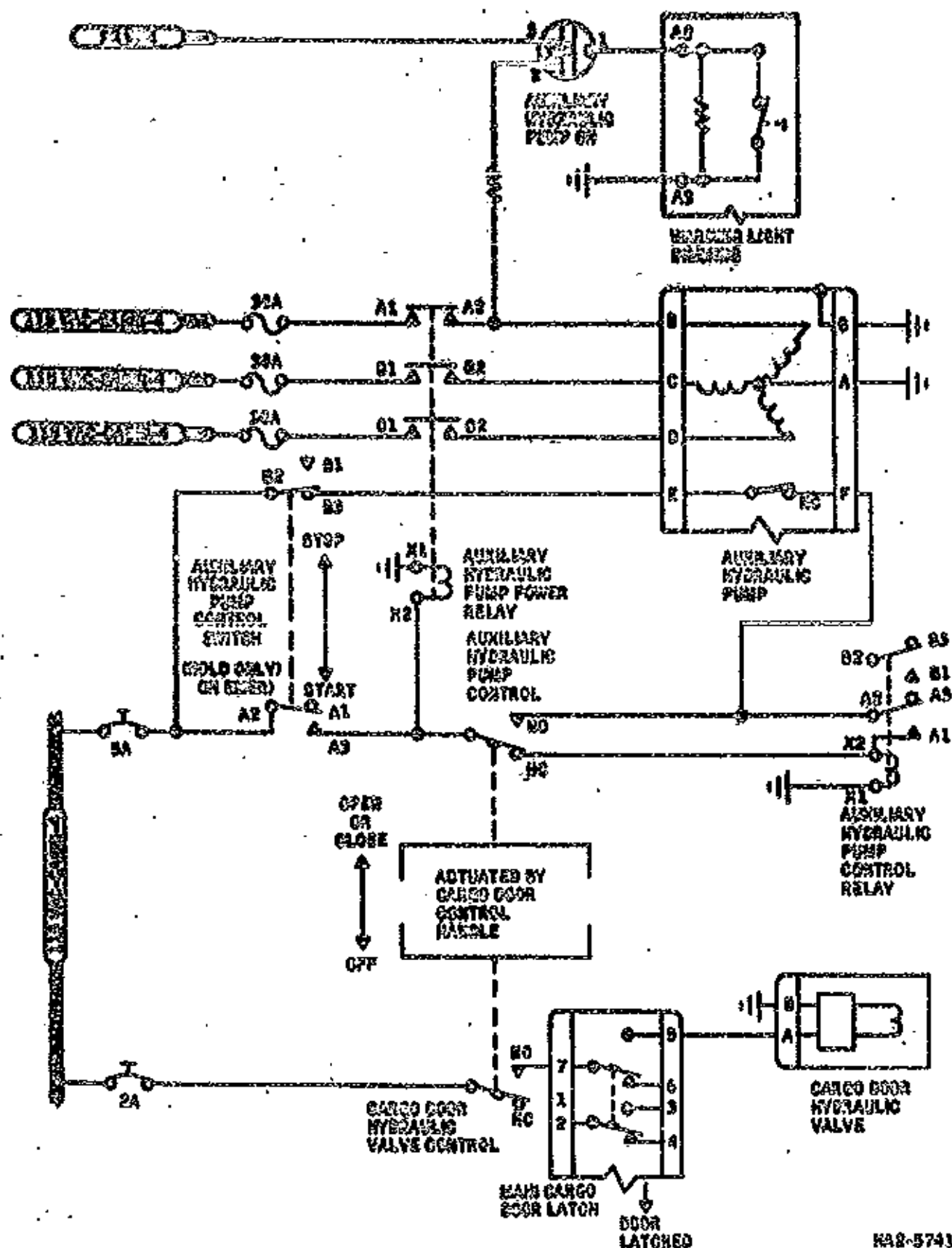
**WARNING:** MAKE CERTAIN THAT LANDING GEAR CONTROL LEVER IS IN DOWN POSITION AND LANDING GEAR GROUND LOCKPIES ARE INSTALLED.

- (3) Auxiliary pump on indicating light should come on.
- (4) Hydraulic system pressure indicator should indicate 2800 to 3000 psi.
- (5) Momentarily place auxiliary hydraulic pump control switch in stop position.
- (6) Auxiliary hydraulic pump should stop, auxiliary pump on indicating light should go off, and hydraulic system pressure should gradually fall off.
- (7) Depressurize hydraulic system (see 29-00, Maintenance Practices).

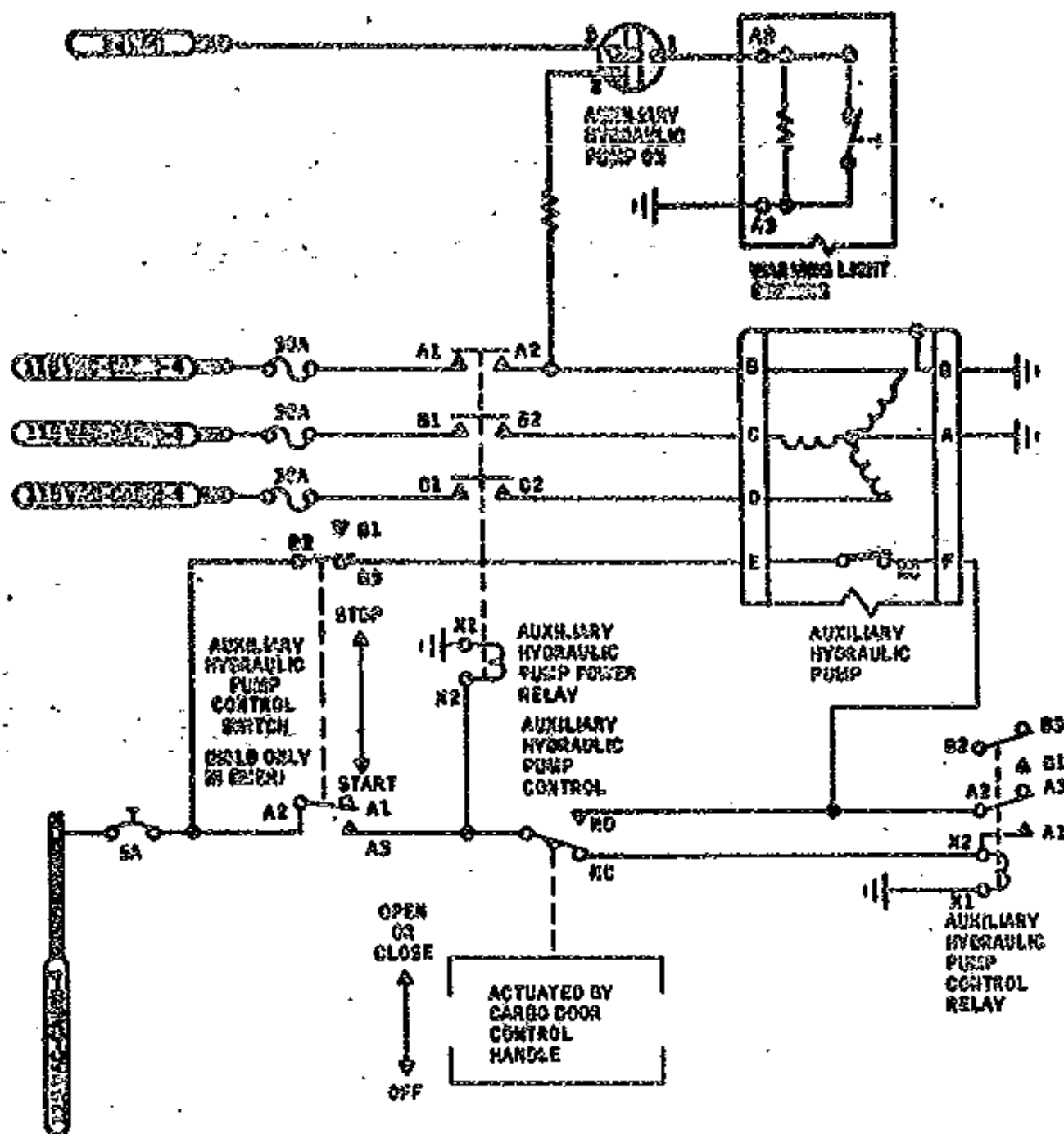
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**SEVEN SIXTY SEVEN**  
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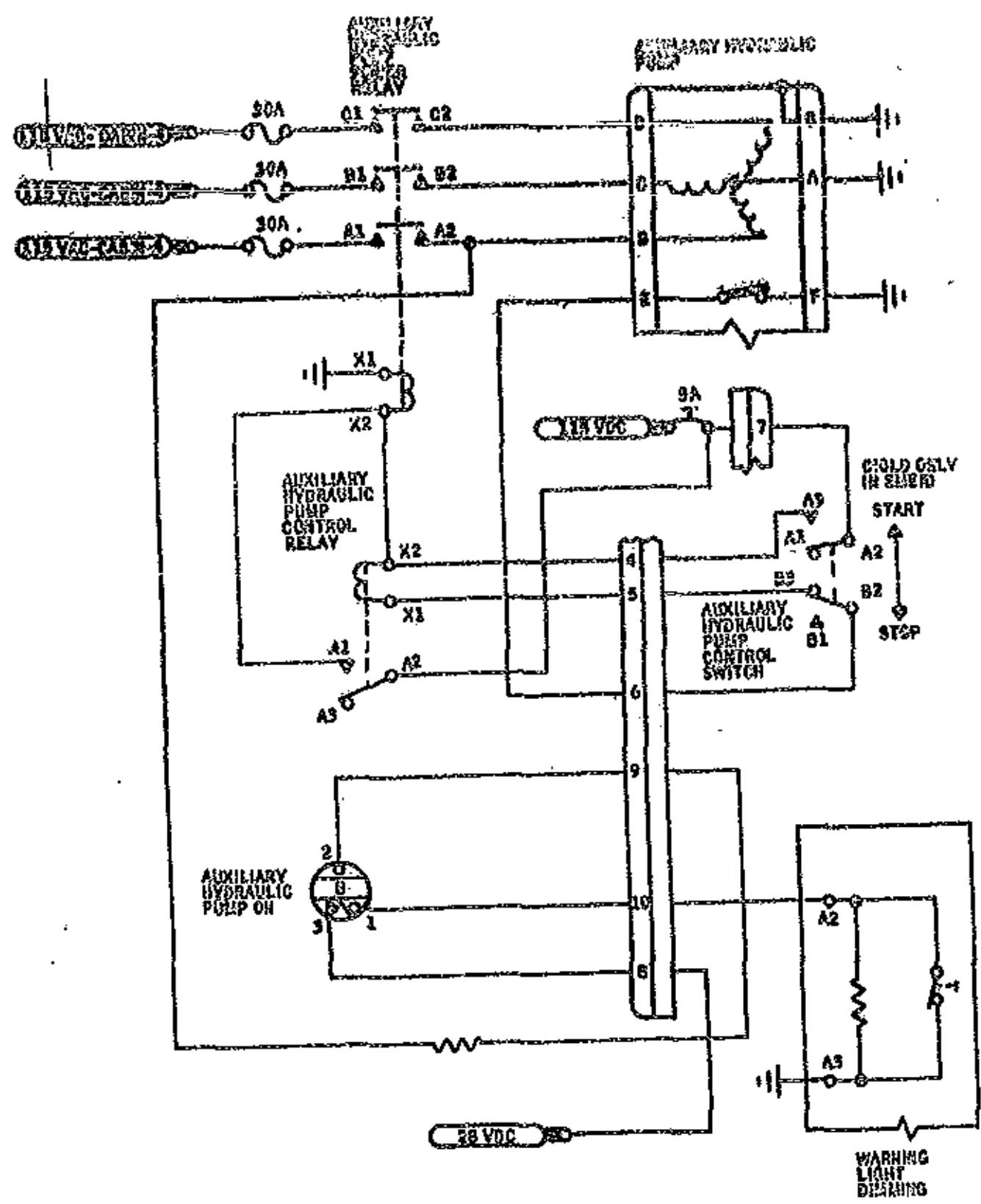


Auxiliary Hydraulic Pump Control System -- Schematic  
 (Airplanes 816 - 819)  
 Figure 1 (Sheet 2)

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Auxiliary Hydraulic Pump Control System --- Schematic  
 (Airplanes 801-811, 820-822, 860 and Subsequent)  
 Figure 1 (Sheet 3)



AUXILIARY HYDRAULIC PUMP BYPASS LINE FILTER -

MAINTENANCE PRACTICES

1. General

- A. The auxiliary hydraulic pump bypass line filter is located on the alternate reservoir which is located in the left wing root area just forward of the auxiliary hydraulic pump.
- B. Access to the auxiliary hydraulic pump bypass line filter is through the left wing root access door.

2. Removal/Installation Auxiliary Hydraulic Pump Bypass Line Filter

A. Remove Bypass Line Filter

- (1) Open auxiliary hydraulic pump control circuit breaker located on cabin bus 4 section of EPC circuit breaker panel and hydraulic system over-temperature rudder and aileron manual indicator circuit breaker located on No bus 4 section of EPC circuit breaker panel.

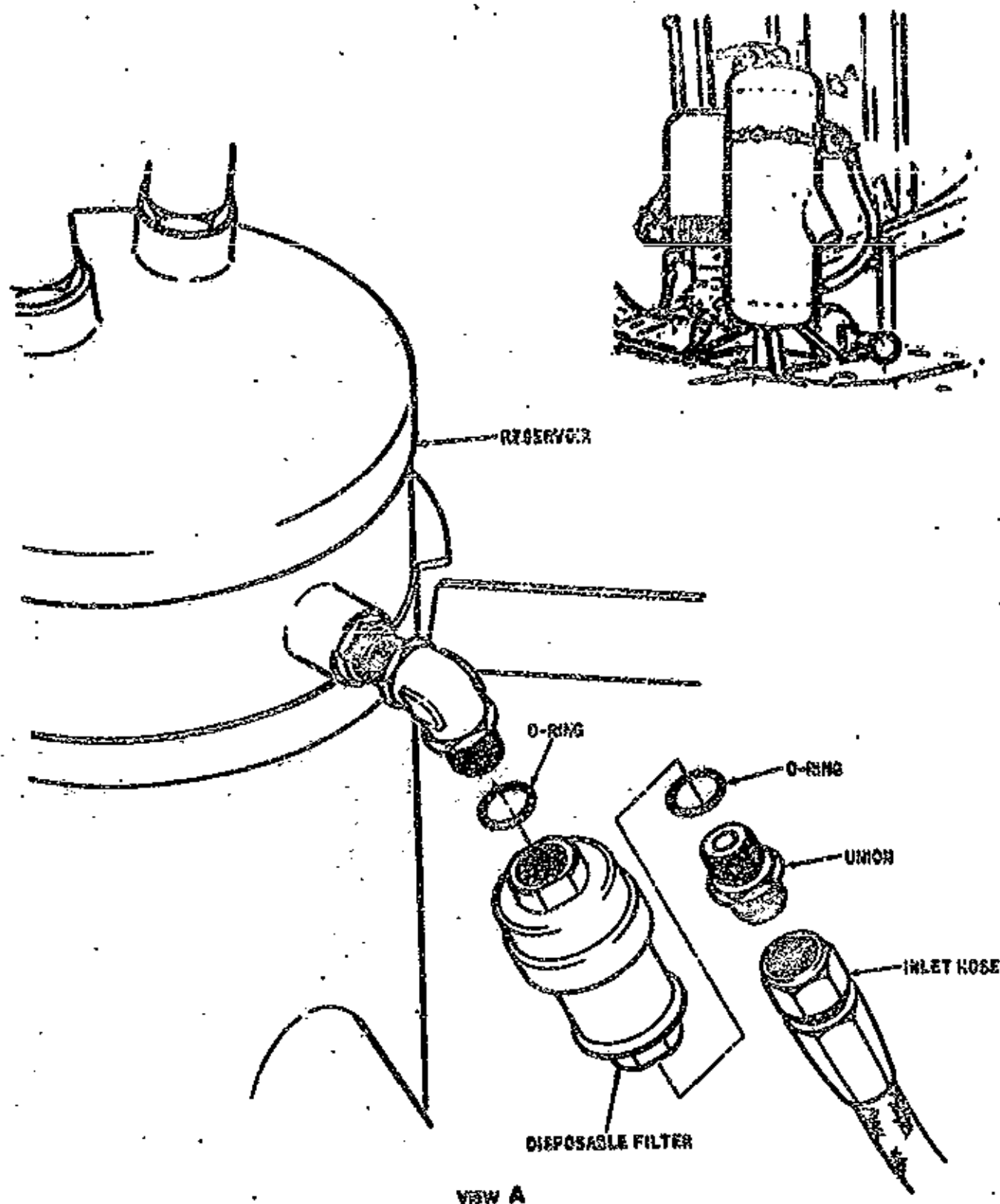
WARNING: TAG AND SAFETY CIRCUIT BREAKERS (SEE CHAPTER 20).

- (2) Place hydraulic system selector control lever in general system (normal) position.
- (3) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (4) Relieve hydraulic reservoir air pressure (see 29-00, Maintenance Practices).
- (5) Drain auxiliary hydraulic pump alternate reservoir to a point below side port where filter is mounted (see 29-00, Maintenance Practices).
- (6) Install magnetic drain plug in manifold at bottom of reservoir. Tighten to torque of 312 ( $\pm 20$ ) inch-pounds. Safety with lockwire.
- (7) Disconnect auxiliary pump bypass line at bottom of filter.
- (8) Remove filter from elbow fitting in reservoir side port.

B. Install Bypass Line Filter

- (1) Make certain that auxiliary hydraulic pump control and hydraulic system overtemperature rudder and aileron manual indicator circuit breakers are open.
- (2) Install filter on elbow fitting in reservoir side port.

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Auxiliary Hydraulic Pump Bypass  
 Line Filter -- Installation  
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- (3) Connect bypass line to bottom of filter.
- (4) Close auxiliary hydraulic pump control and hydraulic overtemperature rudder and aileron manual indicator circuit breakers.
- (5) Fill auxiliary hydraulic pump alternate reservoir (see 29-20-8, Servicing).

3. Inspection/Check Auxiliary Hydraulic Pump Bypass Line Filter

A. Check Bypass Line Filter

- (1) Make certain that hydraulic system selector control lever is in general system (normal) position.
- (2) Pressurize hydraulic system with auxiliary hydraulic pump (see 29-00, Maintenance Practices).

**WARNING:** MAKE CERTAIN THAT LANDING GEAR CONTROL LEVER IS IN THE DOWN POSITION AND THE LANDING GEAR GROUND LOCKPINS ARE INSTALLED.

- (3) Check that hydraulic fluid is visible in alternate reservoir sight gage.
- (4) Check hydraulic fittings on reservoir and bypass line filter for leaks.
- (5) Check all hydraulic lines in area for security of attachment and general condition.
- (6) Check magnetic drain plug on reservoir for safety lockwire.
- (7) Depressurize hydraulic system (see 29-00, Maintenance Practices).
- (8) Fill hydraulic system reservoir as described on instruction placard on reservoir.